



King County  
Department of Development and Environmental Services  
Building Services Division  
900 Oakesdale Avenue Southwest  
Renton, Washington 98055-1219  
206-296-6600 TTY 206-296-7217

# KING COUNTY CERTIFICATE OF WATER AVAILABILITY

Alternative formats available  
upon request

## King County Certificate of Water Availability

This certificate provides the Seattle King County Department of Public Health and the Department of Development and Environmental Services with information necessary to evaluate development proposals.

Do not write in this box

number

name

- ☐ Building Permit  
☐ Short Subdivision

- ☐ Preliminary Plat or PUD  
☐ Rezone or other \_\_\_\_\_

Applicant's name:

*Please see attached certificate of water supply availability*

Proposed use:

Location:

(attach map and legal description if necessary)

### Water purveyor Information:

1. ☒ a. Water will be provided by service connection only to an existing 8-inch (size) water main that is adjacent to the site.  
OR  
☐ b. Water service will require an improvement to the water system of:  
☐ (1) \_\_\_\_\_ feet of water main to reach the site; and/or  
☐ (2) The construction of a distribution system on the site; and/or  
☐ (3) Other (describe) \_\_\_\_\_
2. ☐ a. The water system is in conformance with a County approved water comprehensive plan.  
OR  
☒ b. The water system improvement is not in conformance with a County approved water comprehensive plan and will require a water comprehensive plan amendment. (This may cause a delay in issuance of a permit or approval).
3. ☐ a. The proposed project is within the corporate limits of the district, or has been granted Boundary Review Board approval for extension of service outside the district or city, or is within the County approved service area of a private water purveyor.  
OR  
☒ b. Annexation or Boundary Review Board (BRB) approval will be necessary to provide service.
4. ☒ a. Water is or will be available at the rate of flow and duration indicated below at no less than 20 psi measured at the nearest fire hydrant adjacent to the property (or as marked on the attached map):  
Rate of flow at Peak Demand  
☐ less than 500 gpm (approx. \_\_\_\_\_ gpm)  
☐ 500 to 999 gpm  
☒ 1000 gpm or more  
☐ flow test of \_\_\_\_\_ gpm  
☐ calculation of \_\_\_\_\_ gpm  
Duration  
☐ less than 1 hour  
☒ 1 hour to 2 hours  
☐ 2 hours or more  
☐ other \_\_\_\_\_  
(Note: Commercial building permits which includes multifamily structures require flow test or calculation.)  
OR  
☐ b. Water system is not capable of providing fire flow.
5. ☒ a. Water system has certificates of water right or water right claims sufficient to provide service.  
OR  
☐ b. Water system does not currently have necessary water rights or water right claims.

Comments/conditions:

*Please see attached Certificate of Water Supply.*

I certify that the above water purveyor information is true. This certification shall be valid for one year from date of signature.

Port Blakely Communities  
Agency name

Benjamin Giddings  
Signature name

Vice President  
Title

Signature

Date

Check out the DDES Web site at [www.metrokc.gov/ddes](http://www.metrokc.gov/ddes)

MASTER CERTIFICATE OF WATER SUPPLY AVAILABILITY  
No. WSA01-00028 (Effective April 1, 2002; Amended and Restated December 7, 2004)

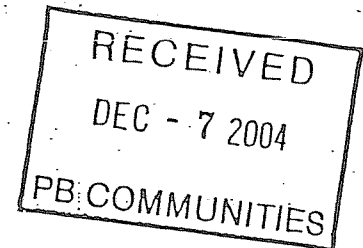
Pursuant to City of Issaquah Municipal Code Chapter 13.100, this certificate confirms that the City's Water Supply Availability requirement has been satisfied and Water Supply is reserved for the specific period of time and for the specific development size, type and location described below.

1. Name of project (if applicable) and type of development: Issaquah Highlands

2. *Land Owner:* Name: Port Blakely Communities  
Address: Issaquah Highlands (Formerly Grand Ridge), See 2-Party Development Agreement for Legal Description and Location  
Phone: 425-391-4700

*Applicant:* Name: Port Blakely Communities (c/o Ben Giddings)  
Address: 1775 12<sup>th</sup> Ave NW, Issaquah WA 98027  
Phone: 425-391-4700

*Contact:* Name: Ben Giddings, P.E.  
Address: 1775 12<sup>th</sup> Ave NW, Issaquah WA 98027  
Phone: 425-391-4700



3. *Property Location:* Issaquah Highlands (Formerly Grand Ridge)  
Parcel Number: Varies, See 2-Party Development Agreement

4. *Proposed Land Use:*

- a. Single family number of units: 3,250 maximum
- b. Multifamily number of units: Incl. In SF count above (See Development Agreement)
- c. Commercial number of square feet: 2,950,000 sf maximum
- d. Retail: 425,000 sf maximum
- e. TDR's (commercial or retail) 500,000 sf maximum
- f. As further modified in the 2-Party Development Agreement

5. *General Conditions:*

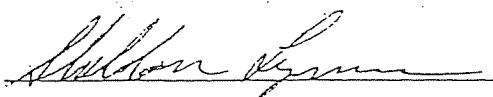
- (a) This Certificate of Water Supply Availability does not supercede or replace additional water or other development requirements that may be applicable to this project, including, but not limited to the City's water general facility fees, water standards, the State Environmental Policy Act (SEPA), or other requirements; except as specifically defined or modified in the 2-Party Development Agreement.
- (b) This Certificate is subject to all applicable provisions of City of Issaquah Municipal Code Chapter 13.100, Water Supply Availability Management, except as described in "Specific Conditions" below.
- (c) This certificate is not an approval of the project as proposed or permission to start construction. This certificate is a finding that the project is consistent with the requirements of IMC Chapter 13.100, Water Supply Availability Management. Land Use permits, Building permits, and Public Works permits may be required.
- (d) This certificate shall expire upon termination or expiration of the 2-Party Development Agreement.

6. *Specific conditions are described below.*

- (a) The following water ERUs (495 gal/day per ERU) are assigned, allocated and reserved for the Issaquah Highlands property (I/H Property): 5,685 ERUs from the regional pipeline, city wells or other supply source as determined by the City. This supply amount is vested for use at Issaquah Highlands during the term of the 2-Party Development Agreement. "Issaquah Highlands" has the same meaning and land area as defined in Ex 1-A of the 2-Party Agreement, plus any Expansion Areas or other land subsequently added to the Issaquah Highlands project, plus the SE Rural Area (now known as "Grand Ridge Drive") as defined in the Grand Ridge Joint Agreement dated June 10, 1996 (Memorandum recorded 9606180756). ERU means: 1 single family unit; and 1250 square feet of commercial-retail; a multi-family unit is 0.67 ERU.
- (b) Assignment of parcel specific Water Availability Certificates for ERU's will be done in writing by the MDRT. PBC will notify the City and record the amount of water ERU's assigned for specific parcels or users within the I/H property and the City will issue a Water Availability Certificate. Upon such issuance, the ERU allocation to such parcels shall run with the land and be binding and inure to the benefit of the owners and successors in-interest of those parcels. Assignments of water availability shall be tracked by the MDRT against the total available in this certificate.
- (c) The water ERU allocations are to be used only in connection with buildout of the Allowable Development and other uses allowed under the Issaquah Highlands Development Agreement (2-Party Agreement) and no other purpose. Since the Master Water Certificate applies to the Issaquah Highlands parcel as a whole, the water ERUs identified in this certificate or in any certificate issued for a specific parcel under paragraph 6(b) can be transferred and assigned initially (or any unused ERUs within Area 4 at Issaquah Highlands can be transferred subsequently provided the landowner of the specific parcel agrees in writing and pays the City for its administrative time in re-issuing the certificate for more than one time for a specific parcel) to another phase or parcel within I/H Property to accompany the location and buildout of commercial, retail and residential development at Issaquah Highlands. Since this Certificate is granted to the Issaquah Highlands parcel as a whole, this transferability within the I/H Property is consistent with IMC 13.100.040(J).

Please bring this Certificate of Water Supply Availability with you when you apply for a development permit with the City of Issaquah. If you have any questions, please call the Permit Center at 425 837-3100.

Approved by:



Sheldon Lynne, Deputy Director PWE



CONCEPT ENGINEERING, INC.

455 Rainier Boulevard North, Suite 200  
Issaquah, Washington 98027  
(206) 392-8055 Fax: (206) 392-0108

CLIENT GLACIER PARK JOB # 25100 (1)

### SOIL PROFILES

SL #1 0-36" + SANDY LOAM AND FRACTURED ROCK

SL #2 0-36" BROWN SANDY LOAM WITH GRAVELS

SL #3 0-30" BROWN SANDY LOAM (NOT USED)

SL #4 0-36" + BROWN SANDY LOAM

SL #5 SIMILAR TO #1 - 36" +

Alonzo L. Plough, Ph.D., MPH, Director

January 24, 2002

James E. Szabo  
455 Rainier Boulevard North  
Issaquah, WA 98027

Re: Winter Water Table Analysis and Evaluation

Address: 26801 SE 64<sup>th</sup> PL (LOT 1)  
Parcel: 252406-9014  
Owner: Port Blakely Communities

Activity: ON0056152

Dear Mr. Szabo:

Public Health has completed the Winter Water Table (WWT) review for the above referenced property. It has been reviewed in accordance with the King County Board of Health Code Title 13 and the WWT Monitoring Guidelines document (10/25/00).

Observations or conditions for this site were based not only on water table levels but also on site conditions and water table indicators:

The following are the results of the winter water table review:

Location		Winter Water Table Review Findings	
Date		12-17-01	
Soil Logs	Monitor Port	Depth in inches	
SL1-1		Dry to 38	
SL1-2		Dry to 33	
SL1-3		W=22	
SL1-4		Dry to 36	
	A	Dry to 32	
	B	Dry to 35	

W = Water Level      DR = Debris Ring      D=Dry

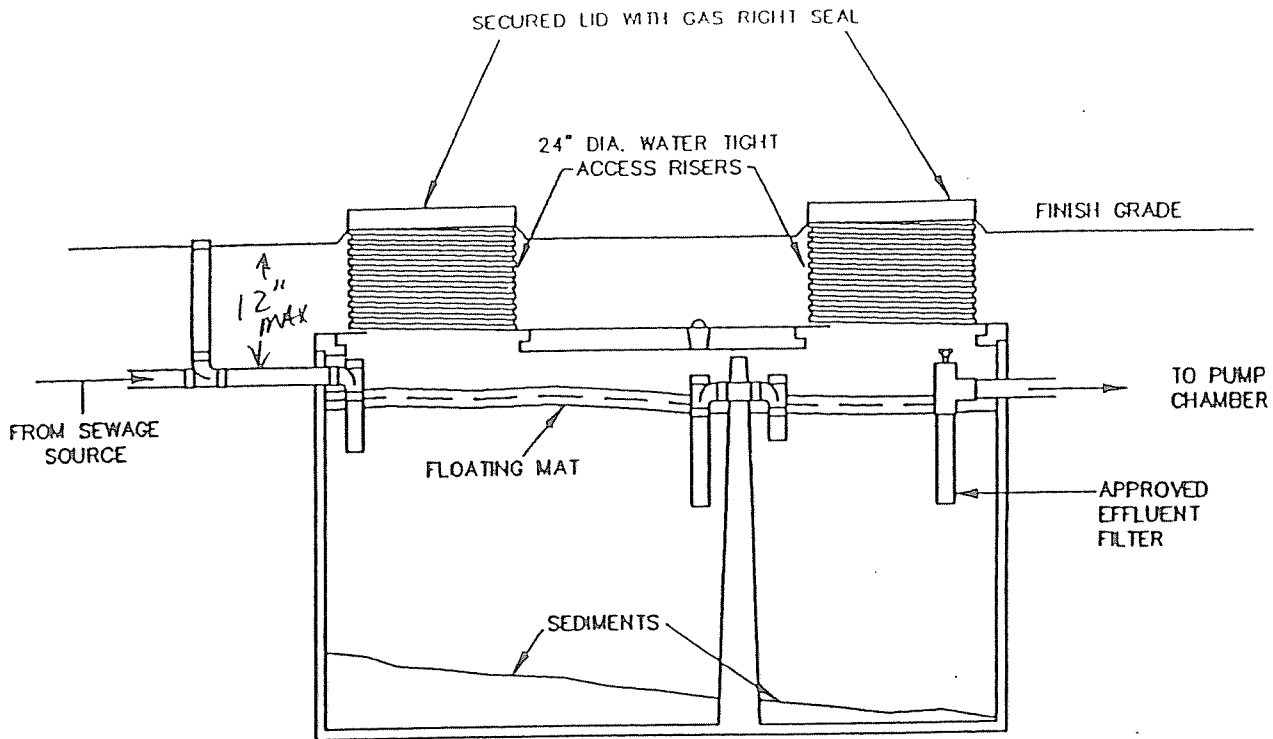
Note: Observation was made following 3 days of heavy rain.

CONSTRUCTION NOTES AND SPECIFICATIONS  
FOR ON-SITE SEWAGE DISPOSAL SYSTEM

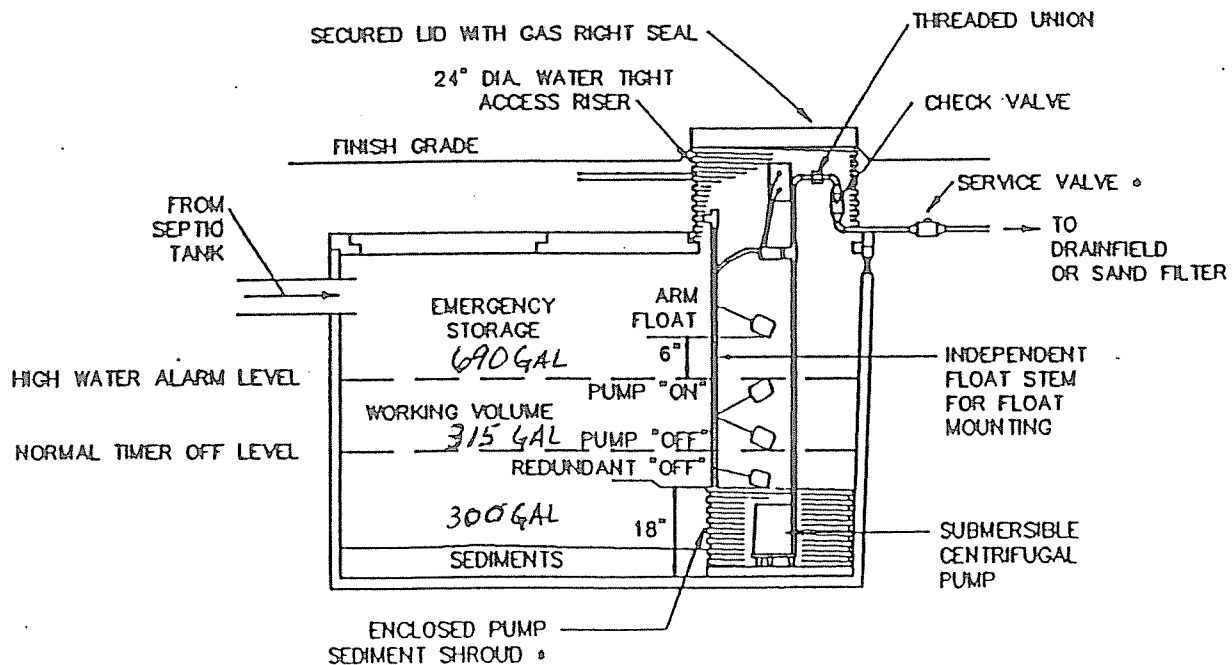
1. All work and materials shall be in accordance with the Seattle-King County On-Site Sewage Code Title 13, Code of the King County Board of Health, effective April 19, 1999, as well as Washington State Department of Health Recommended Standards and Guidance for Pressure Distribution Systems effective April 5, 1999 and Washington State Department of Health Recommended Standards and Guidance for Sand Filter Systems effective April 5, 1999, as applicable.
2. It shall be the sole responsibility of the client/homeowner/developer to backfill or cover all the soil test pits on this property after Health Department review of these soils unless otherwise requested in writing that CONCEPT ENGINEERING, INC. provide this additional service.
3. Property boundaries indicated are based solely on information provided by the client.
4. Contours indicated are approximate and based on assumed datum.
5. EXTREME care should be taken not to disturb the natural soils in the primary or reserve drainfield areas prior to installation! DO NOT cut, compact or drive over the natural soils in these areas prior to or after installation of the system. Clearing in the drainfield areas shall be performed only by a licensed installer with hand tools or other method acceptable to the designer and health official.
6. Changes in house or drainfield location will invalidate this design.
7. Use water conservation devices on all fixtures in the structure (i.e. low volume flush toilets, etc.)
8. The system shall be constructed by a "licensed master installer".
9. The plumbing stub-out pipe invert at the building wall shall be installed not more than 12 inches below the ground surface (final grade) or elevation 1056', whichever is higher, unless otherwise approved by the designer.
10. The septic tank volume shall be 2000 gallons minimum.
11. PUMP CHAMBER NOTES:

Tank size:	<u>1500</u> gallons
Pump cycle:	<u>315</u> Gal/Dose
Design Condition:	<u>51</u> Feet Flow <u>85</u> GPM
Manufacturer:	<u>ZOLLER</u>
Model No.:	<u>E189 2H (230V)</u>
12. SANDFILTER PUMP NOTES:

Pump cycle:	_____ Gal/Dose
Design Condition:	_____ Feet Flow _____ GPM
Manufacturer:	_____
Model No.:	_____
13. A Rhombus TDL programmable pump cycle timer shall be installed to control dose frequency of pump.
14. There shall be a pump failure alarm system installed in the structure to warn of pump failure.
15. Stockpile the required Sandy Loam cover material on-site prior to as-built inspection (approximately 100+ cubic yards).
16. Building down spout and footing drains shall be diverted away from the drainfield areas.
17. The installer shall backfill the trenches with the Sandy Loam cover material as required to attain a 12 inch minimum to a 22 inch maximum depth soil cover over all portions of the lateral trenches. Final grading shall be performed in a manner that will allow surface water runoff to travel away from all sides of the fill and shall be seeded with native grasses unless other permanent erosion control methods are approved by the designer.
18. Stub-out, construction inspection and as-built fees were not included with this design and may be charged on a fixed fee or hourly basis. A retainer against construction support will be required prior to stub-out release for the system.



1000 GALLON  
SEPTIC TANK  
(TYPICAL)  
(USE 2)



1500 GALLON  
PUMP CHAMBER  
(TYPICAL)

• AS NEEDED

# PRESSURE DISTRIBUTION DESIGN WORKSHEET

## I. DESIGN DISTRIBUTION NETWORK

### Step 1: Preliminary Determination of Trench/Bed Configuration

- A. Daily design flow = 690 gal
- B. Application rate based on soil type = 0.6 qpd/ft.<sup>2</sup>
- C. Required absorption area = 1150 ft.<sup>2</sup>
- D. Selected trench ~~width~~ width = 2 ft.
- E. Total trench ~~width~~ length = 575 ft.

### Step 2: Preliminary Network Configuration

- A. Lateral length = VARIES ft.
- B. Lateral spacing = 8 ft. o.c.
- C. Transport pipe length = 150 ft. MAX
- D. Transport line diameter = 2 in.
- E. Manifold length = 3 ft.
- F. Preliminary drawing of pressure distribution network

Place the appropriate value for each lateral in the system in the chart below:

Lateral Number(s)	Residual Pressure (ft.)	Orifice Discharge (gpm)	Lateral Discharge (gpm)	# Orifices per Lateral	Orifice Spacing (ft.)
1-5 (30')	2	.59	7	12	
6,7 (45')	2	.59	6.5	11	4
8-13 (40')	2	.59	6	10	"

### Step 3:

- A. Laterals will be valved or at the same elevation:

1. Orifice spacing = 4 ft.
2. Number of orifices = 142 orifices TOTAL

$$\text{Number of orifices} = \frac{\text{Lateral Length (ft.)}}{\text{Orifice spacing (ft.)}}$$



3. Lateral Diameter and the Orifice Diameter

- A. Pipe class or schedule = \_\_\_\_\_
- B. from Appendix 1, with lateral length = \_\_\_\_\_ ft.;  
pipe class/schedule = \_\_\_\_\_; and orifice spacing  
= \_\_\_\_\_, select acceptable alternatives:

Orifice Diameter (in.)	Lateral Diameter (in.)	Orifice Spacing (ft.)	Allowable lateral length for pipe class/schedule (ft.)
<u>3/16"</u>	<u>1"</u>	<u>4</u>	<u>56</u>

Step 4: Select the Manifold Diameter

- A. Laterals will be valued or at the same elevation:
- Calculate the orifice discharge rate (Use table or equation in Appendix 2 of guideline) at a residual pressure of 2 ft. = 1.59 gpm
  - Calculate the lateral discharge rate = 6-7 gpm
  - Select appropriate manifold diameter from Table 1 of guideline = 3 in.

II. DESIGN OF THE PRESSURIZATION SYSTEM

Step 1: Dose Volume

- A. Dose volume based on soil type
- Recommended dosing frequency/day = 3 doses/day
  - Recommended dose volume = 230 gal

Dose volume (gal.) =  $\frac{\text{Design flow (gpd)}}{\text{Recommended dosing frequency/day}}$

- (575 x .06) + (150 x .19) x 5 = 315 gal
- B. Dose volume based on dose volume/pipe void ratio = 315 gal
- C. Select larger of A or B above = 315 gal

Step 2: Required Pump or Siphon Discharge Capacity = 85 gpm

Required pump discharge capacity = Sum of all discharge rates from all laterals in the system

Step 3: Total Friction Losses in the Network

A. Transport pipe: Use table or equation in Appendix C-3 = 10 ft. *used*

Pipe Material	Pipe Diameter	Flow (gpm)	Friction loss per 100 feet of pipe	Pipe Length	Friction Loss in Pipe
<u>PVC</u>	<u>2"</u>	<u>85</u>	<u>1.2</u>	<u>150</u>	<u>9</u>

B. Manifold and lateral friction losses = (Assume 1) 1 ft.

Step 4: Calculate the Total Elevation Lift = 25 ft.

Total elevation lift = (Elevation of uppermost lateral) -- (Elevation of low water level in the pump chamber)

Step 5: Total Dynamic Head

1. If pump will be used:

Selected residual pressure 2 ft.

Transport pipe friction losses 10 ft.

Manifold and lateral friction losses 1 ft.

Total elevation lift 25 ft.

VALVES (13) 13 ft

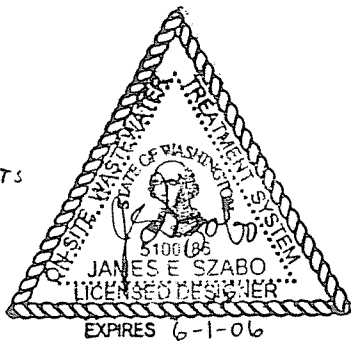
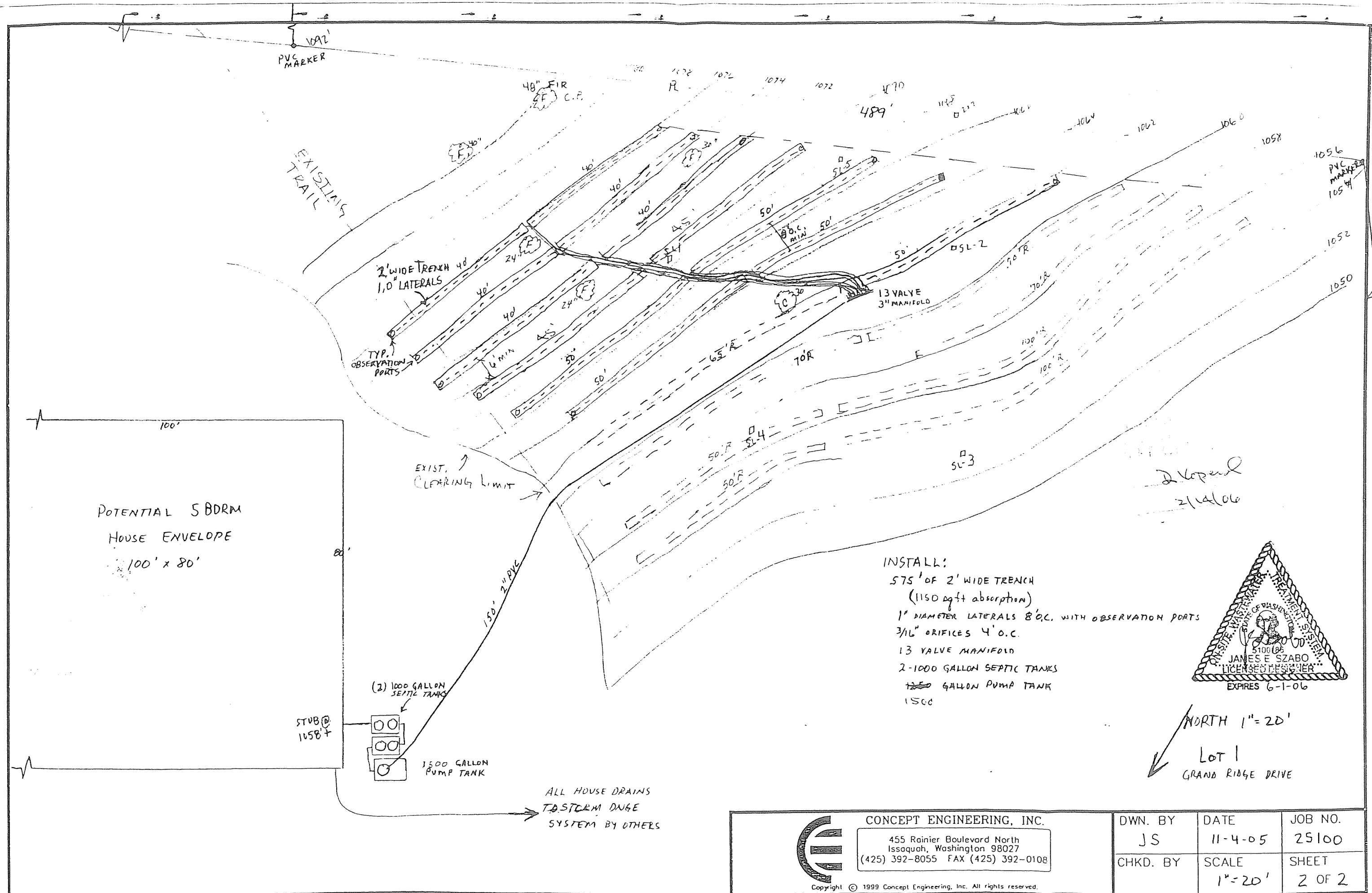
Total Dynamic Head = 51 ft.

Step 6: Select a Pump or Siphon


A. Pump: Required capacity = 85 gpm, Total Dynamic Head = 51 ft.

B. Siphon: Required capacity = \_\_\_\_\_ gpm *Use E-189 2Hp pump or equivalent*





NORTH 1"=20'  
Lot 1  
GRAND RIDGE DRIVE

 CONCEPT ENGINEERING, INC. 455 Rainier Boulevard North Issaquah, Washington 98027 (425) 392-8055 FAX (425) 392-0108 <small>Copyright © 1999 Concept Engineering, Inc. All rights reserved.</small>	DWN. BY JS	DATE 11-4-05	JOB NO. 25100
	CHKD. BY	SCALE 1"=20'	SHEET 2 OF 2